

High Density in Norman

Session 4

“Parking, Traffic and Infrastructure”

July 26, 2012

WHY ARE WE HERE?

- New development applications received requesting multi-family development above 100 dwelling units per acre (du/ac)
- More similar applications are anticipated
- Current high density in Norman is 26 du/ac
- No specific density limitation in the zoning code except in the Mixed Use Development (MUD) District which has a density cap of 30 du/ac
- *Norman 2025 Plan* provides no specific guidance
- The City Council Community Planning and Transportation Committee established a schedule of public meetings and identified specific topics for discussion at each one

Council Planning and Transportation Committee directed staff to:

- Engage citizens in a detailed discussion process about community comfort with the idea of higher density—not defined—just density that is higher than the 1954 Zoning Ordinance currently allows
- Chose topics for discussion in four public sessions

What we are doing throughout this discussion series is:

- Testing the boundaries of the community's comfort with the idea of higher density
- Giving you tools to make your own informed decision about what's right for the community.

SUMMARY

Higher Density: What's In it For Us?

- Walkability—the “5-minute walk”
- Convenience
- Wider variety of housing choices
- Activity attracts people
- Stimulates demand for neighborhood-scale businesses
- Promotes civility and sociability
- Can provide more riders for transit

SUMMARY OF SESSION #1, June 11, 2012

- Summary of the opening presentation:
 - Defined density (net and gross)
 - Explained Current Zoning Regulations
 - Provided information on pros and cons of high density development
 - Defined terms such as infill and redevelopment
 - Introduced Floor Area Ratio

SUMMARY OF SESSION #2, June 28, 2012

Compatibility

- Definitions and Synonyms
- Question: What are the elements of compatibility from your point of view? What needs to be considered?

Location

- What criteria should be used to consider location of high density?
- Question: Given the prioritized list of compatible elements just discussed, and thinking about the assumptions presented for likely, logical locations for high density, what general areas in Norman do you think are appropriate for higher density development?

SUMMARY OF SESSION #3, JULY 9, 2012

Height of Buildings

- Regulations of height
- Question 1
 - What makes the height of a building, higher than two stories, attractive or unattractive to you?
- Question 2
 - Do taller buildings add interest to a community?

SUMMARY OF SESSION #3, JULY 9, 2012

Mixed Use Buildings

- Description of Mixed Use Buildings
- Question 1
 - What makes Norman distinctive?
- Question 2
 - How can mixed-use development support that distinctiveness?

Existing Five Story Buildings at Main and University



Midtown Center



Republic Bank

INFRASTRUCTURE

- **1.** An underlying base or foundation especially for an organization or system.
- **2.** The basic facilities, services, and installations needed for the functioning of a community, such as:
 - Transportation system
 - Communications systems
 - Water and sewer systems
 - power lines
 - public institutions
- ***Usage Note:*** The term *infrastructure* has been used since 1927 to refer collectively to the roads, bridges, rail lines, and similar public works that are required for an industrial economy, or a portion of it, to function.

High Density Development and Utilities

Ken Komiske
Director of Utilities

High Density Design and Utilities

- Water Considerations:
 - Large Water Distribution Main (12" or larger)
 - Multistory buildings will need private pumping facilities for adequate water pressure
 - Fire fighting flows and storage
 - Location may involve off site water line improvements by developer

High Density Design and Utilities

- Wastewater Considerations:
 - Local sewer collectors that lead to larger interceptors (18" or larger)
 - Location may involve off site sewer line improvements by developer

High Density Design and Utilities

- Solid Waste Considerations:
 - Access for large garbage trucks
 - Special provisions for locations to residential property
 - Option for compactors

High Density Design and Utilities

Utility Department will work to identify necessary water and sewer infrastructure needs to adequately serve the proposed development without detriment to existing area. Each project will be reviewed on a case by case basis.

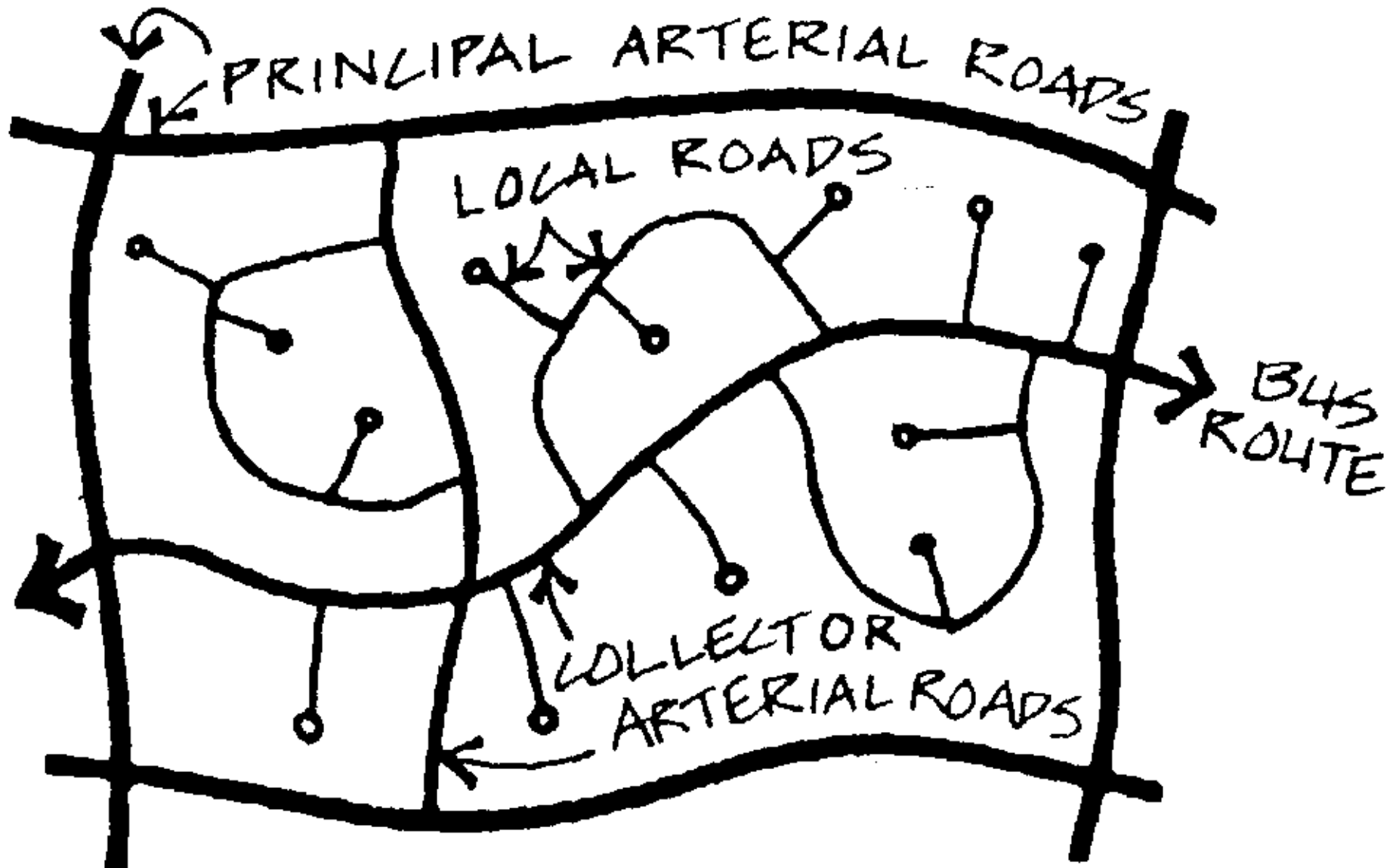
High Density Development Traffic and Parking

Shawn O'Leary
Director of Public Works

Terminology and Basic Concepts

- Classification of Roadways
 - Freeways, Arterials, Collectors, Locals
- Access Management
 - Full Access Control
 - Limited Access
 - Uncontrolled Access
- Capacity
- Level of Service
- Traffic Impact Analysis

Classification of Roadways



Classification of Roadways and Access Management





Road Capacity






















Generally speaking ...

- Ability of road to accommodate traffic
- Maximum hourly rate
- 2,000 passenger car per hour per lane for multi-lane highways

Roadway	Current Volume (Vehicles per Day)	"Capacity" (Vehicles per Day)
I-35 (South of Main St.)	70,300	80,000
Main Street (Berry to Flood)	27,972	34,200
Lindsey Street (Berry to Elm)	17,029	17,100
Elm Avenue (Lindsey to Brooks)	8,992	17,000

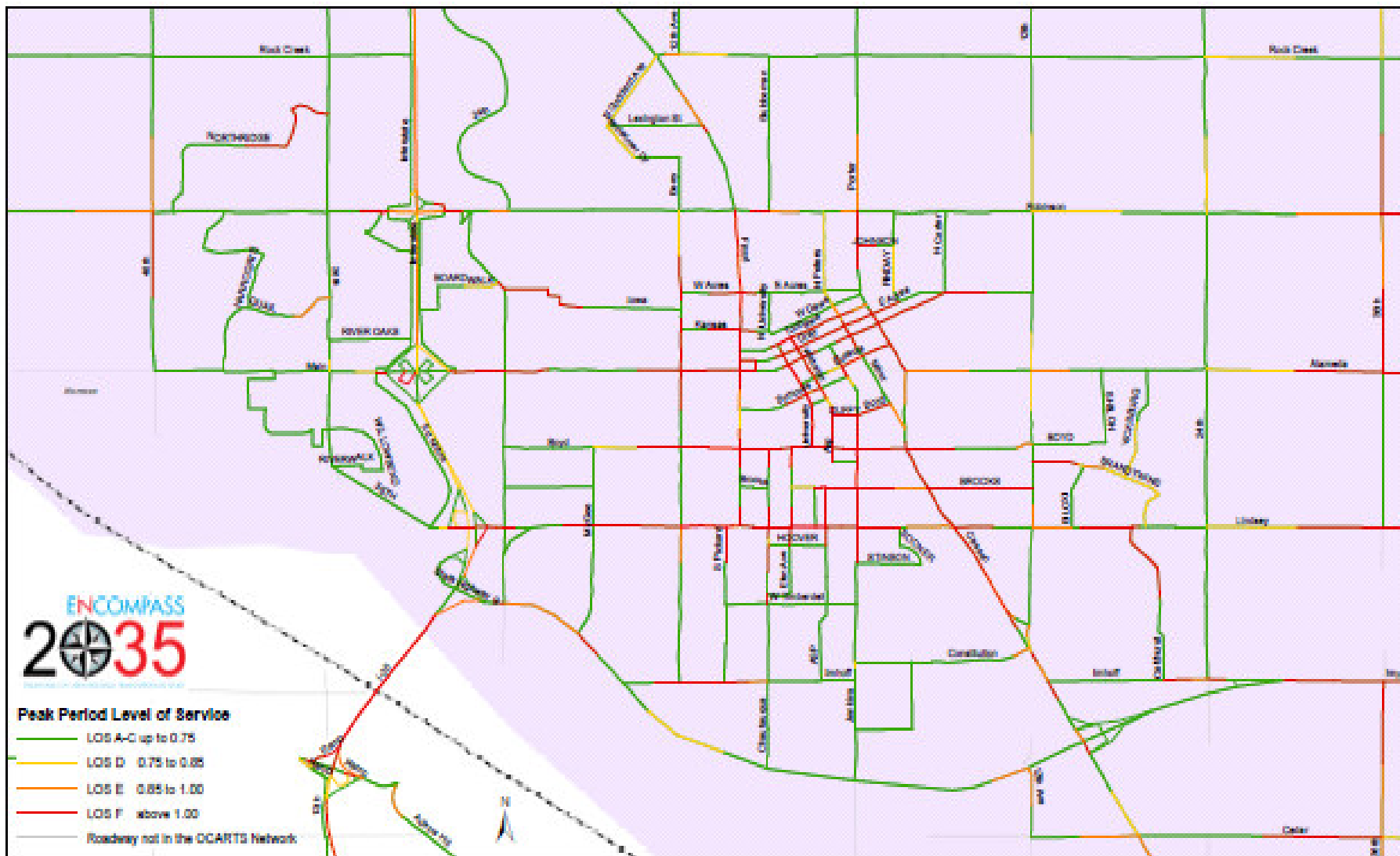
Level of Service

- Used by traffic engineers to determine the effectiveness of transportation infrastructure.
- Used to analyze roadways and intersections
- Six levels – A thru F

Level of Service	Automobile	Bicycle	Pedestrian	Bus
A/B	 			 >4 buses/hour
C/D	 			 2 to 4 buses/hour
E/F	 			 ≤ 1 bus/hour
				

Source: FDOT Quality/Level of Service Handbook

- (A) Free Flow Traffic
- (B) Steady Traffic
- (C) Steady Traffic but Limited
- (D) Steady Traffic at High Density
- (E) Traffic at Saturation
- (F) Congestion



DRAFT Encompass 2035 - Level of Service "Present-plus-Committed" - Peak Period -- Norman Inset

AGSS Map Disclaimer applies. See www.wengit.org/nap/oklahoma.asp

Traffic Impact Analysis (TIA)



Basic Steps Involved:

- Required for developments generating more than 100 peak hour trips since 1996
- Analysis of existing conditions
- Trip Generation and Distribution
- Analysis of future conditions

Traffic Study THE LINKS AT NORMAN

prepared for:



City of Norman, OK
Department of Public Works
Traffic Control Division
REVIEWED BY
12/29/08
City Traffic Engineer

Cedar Lane
and
24th Avenue

Norman, Oklahoma



Ernest J. Peters

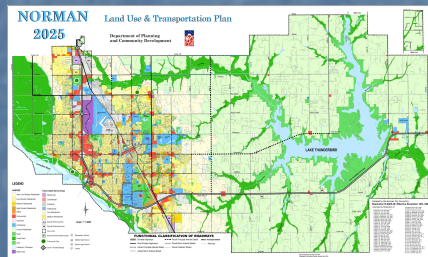
Project No.: P-1381

October 10, 2008

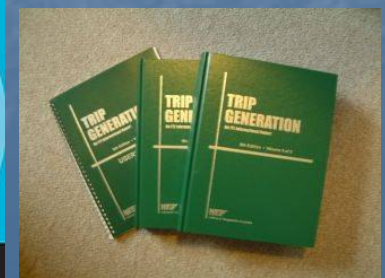
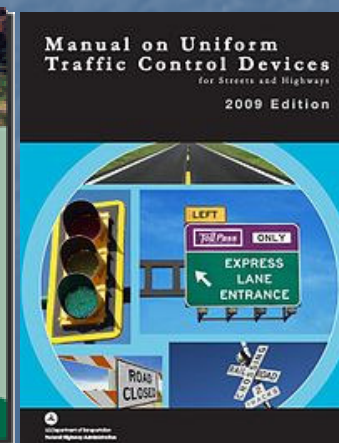
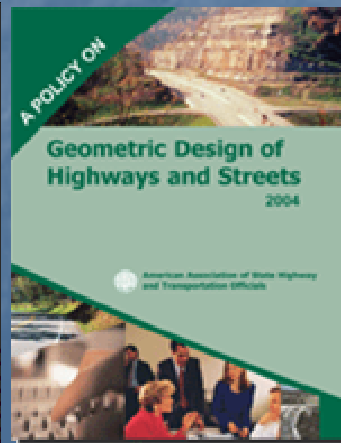
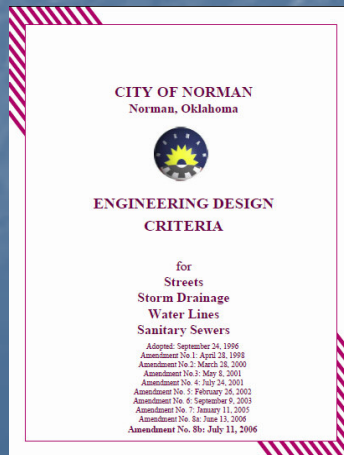
REVISED October 30, 2008



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• CIVIL & TRAFFIC ENGINEERING •
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Little Rock, Arkansas 72223 Fax (501) 868-9710



Tools for the
Traffic Engineer

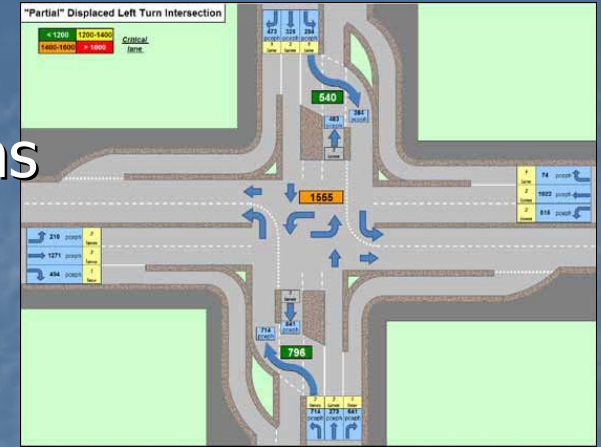


Traffic Impact Analysis Content

- Analysis of Existing Conditions
 - Trip Generation
 - Trip Distribution
- Analysis of Future Conditions

Future Analysis

- i) LOS Analysis for Intersections
- ii) Road Capacity Analysis
- iii) Queuing Analysis
- iv) Signal Warrant Analysis



Conclusions and Recommendations

- i) LOS Results
- ii) Capacity Analysis Results
- iii) Signal Warrant Analysis Results
- iv) Traffic Mitigation Strategy





Multi-Modal Path

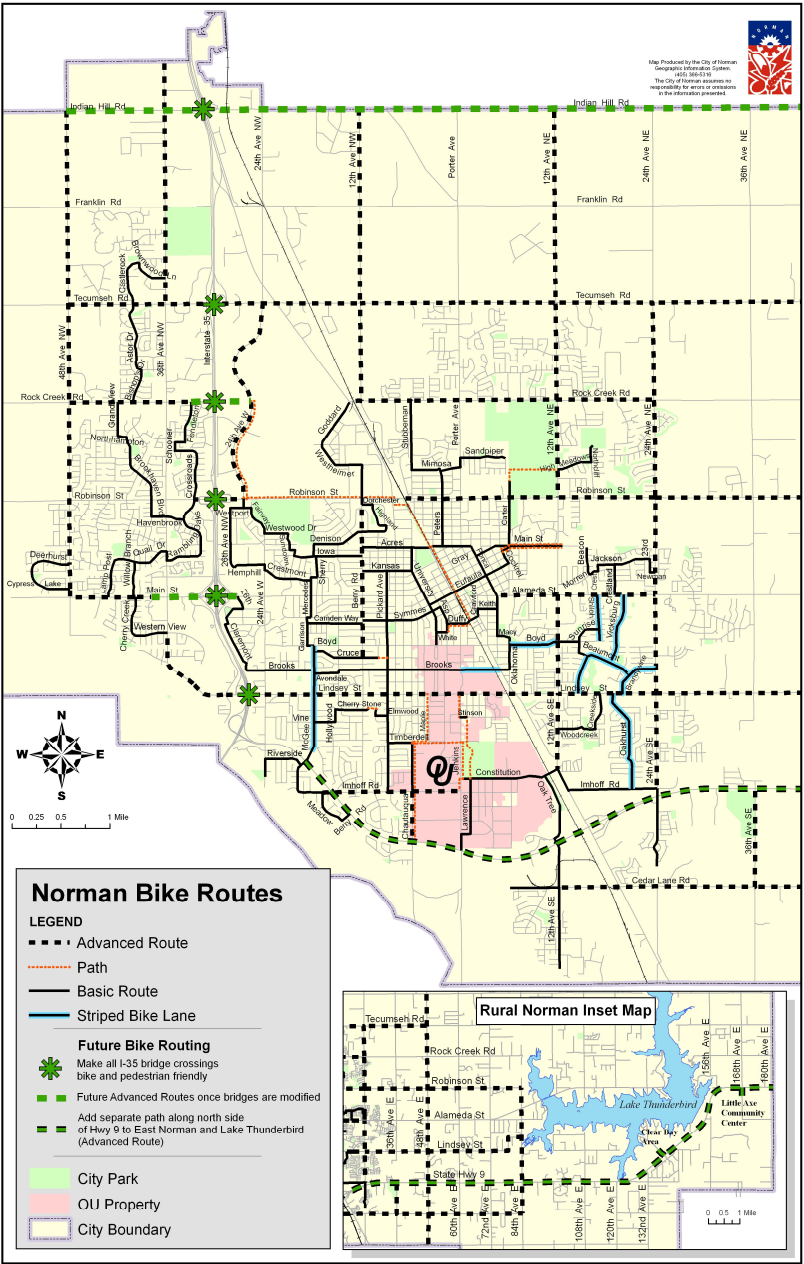


Bike Lane



Shared Lane

Infrastructure



City Requirements for Parking

- Number of Spaces
 - e.g.: 1.8 spaces per dwelling unit for Apartments
- Minimum Dimensions (for parking spaces, aisles and lot)
- Landscaping and Screening



City of Norman ZONING ORDINANCE

This document represents the original Zoning Ordinance No. 384 adopted July 13, 1974, as revised and amended through July 31, 2012. The Zoning Ordinance occupies Articles 2 through XV of Chapter 22 of the Code of the City of Norman.

Revised: 7/31/12

Published by the City of Norman Planning Department
P. O. Box 370-201, A West Gray Street, Norman, Oklahoma 73070

CITY OF NORMAN Norman, Oklahoma



ENGINEERING DESIGN CRITERIA

for
Streets
Storm Drainage
Water Lines
Sanitary Sewers

Adopted: September 24, 1998
Amendment No. 1: April 20, 1998
Amendment No. 2: March 26, 2000
Amendment No. 3: May 8, 2001
Amendment No. 4: July 24, 2001
Amendment No. 5: February 26, 2002
Amendment No. 6: September 9, 2003
Amendment No. 7: January 11, 2005
Amendment No. 8: June 13, 2006
Amendment No. 9: July 11, 2006

RESERVED
PARKING



Multi-Level Parking Garages

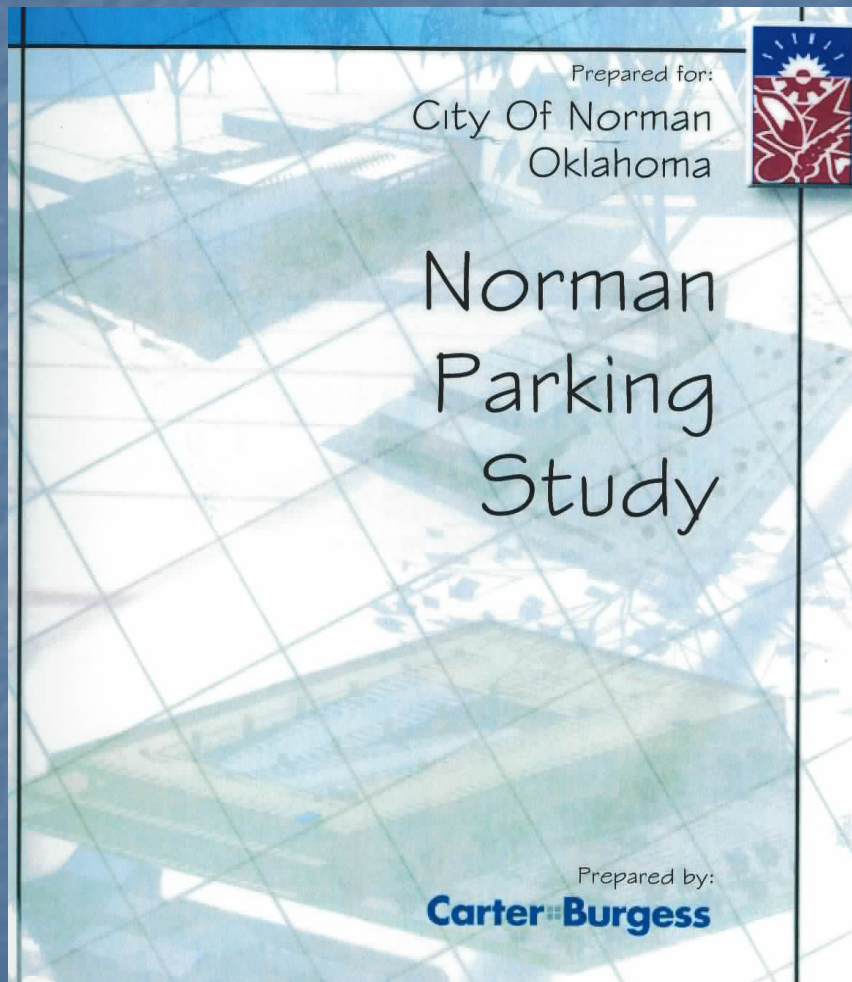
Case Study – O.U.'s Elm Avenue Parking Structure

- Constructed in 1997 (~\$6 Million)
- 575 parking spaces
- TIA conducted as part of the site selection process
- Need for transportation improvements identified
 - Widening of Elm Avenue
 - Intersection improvements at Boyd Street and Elm Avenue)
 - Funded by OU and the City using federal funds
 - Award winning project



Parking Garage Cost
Rule of Thumb - \$10,000 per space

2003 Parking Study



- City hired Carter & Burgess, Inc., to conduct a Parking Study for Downtown Norman and the Campus Corner area
- Major efforts were either completed or underway at the time
 - Restoration of the Railway Depot,
 - Extension of Legacy Trail along the railroad corridor
 - Update of the Comprehensive Land Use Plan
 - Consideration of a central location for a new Norman Public Library
- Study purpose was to identify a parking strategy

Lawrence, Kansas



Garages: 3 downtown

Population: 88,700

Institutions: University of Kansas, Haskell Indian Nations University

Syracuse, New York



Garages: 13 downtown

Population: 145,000

Institutions: Syracuse University, Upstate Medical University

Syracuse, New York



Garages: 13 downtown

Population: 145,000

Institutions: Syracuse University, Upstate Medical University

Staunton, Virginia



Streetscape side



Rear entrance

Garages: One downtown

Population: 27,000

Institutions: Mary Baldwin College, Stuart Hall, VA School for the Blind and Deaf

Fort Collins, Colorado

204 Maple Street



Ann Arbor, Michigan

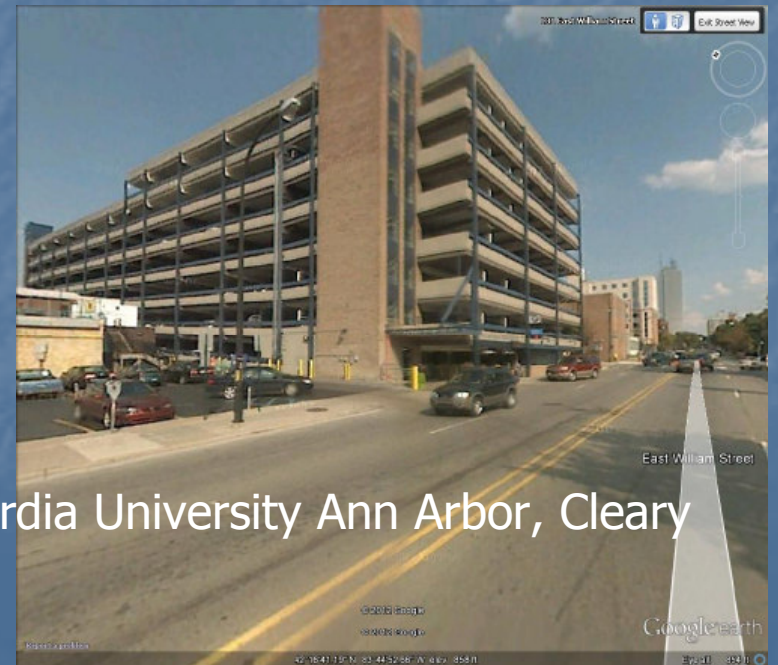


Garages: 6 downtown

Population: 114,000

Institutions: University of Michigan, Concordia University Ann Arbor, Cleary University, University of Phoenix

Ann Arbor, Michigan



Garages: 6 downtown

Population: 114,000

Institutions: University of Michigan, Concordia University Ann Arbor, Cleary University, University of Phoenix

Athens, Georgia



Garages: 3 downtown

Population: 114,450

Institutions: University of Georgia, Athens Technical College, Piedmont College

Austin, Texas



The East Village, Mixed Use Redevelopment
11 Retail units, 20 condo units, rooftop deck accessible to all occupants

Boulder, Colorado

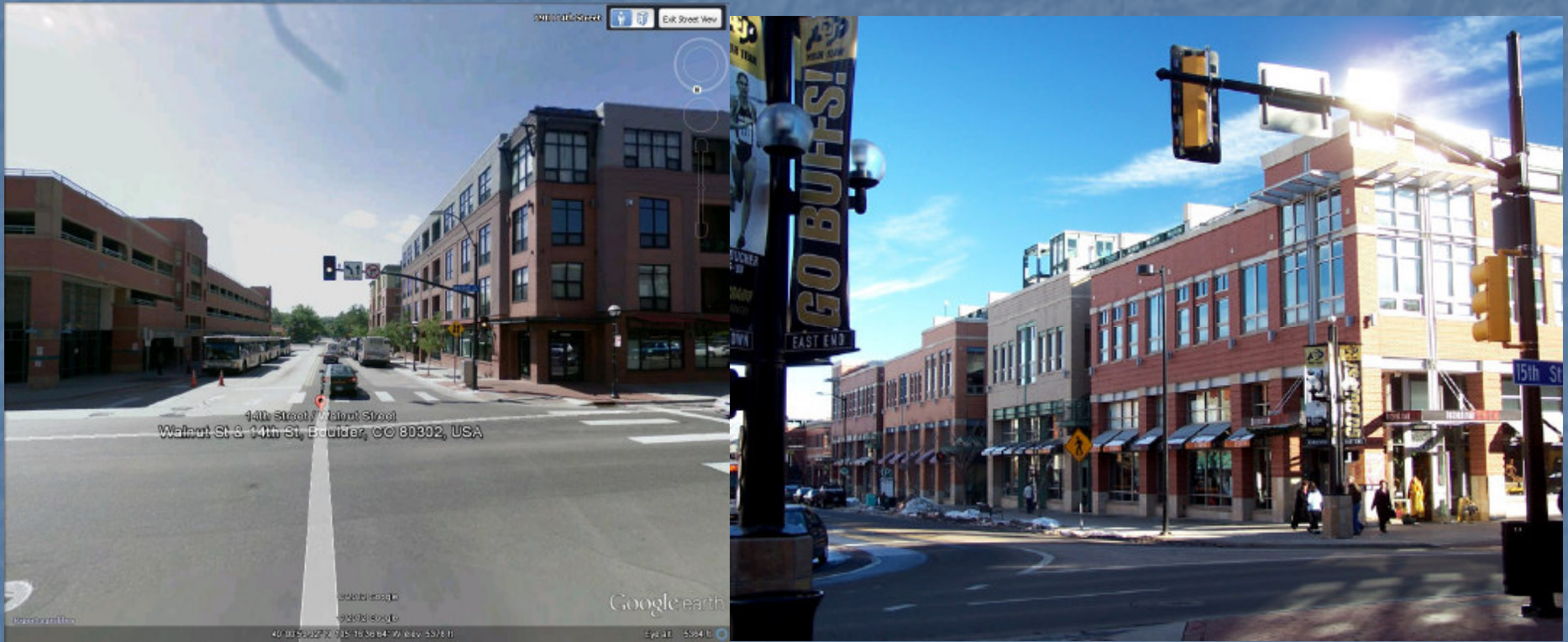


Garages: 6 downtown

Population: 114,000

Institutions: University of Colorado

Boulder, Colorado

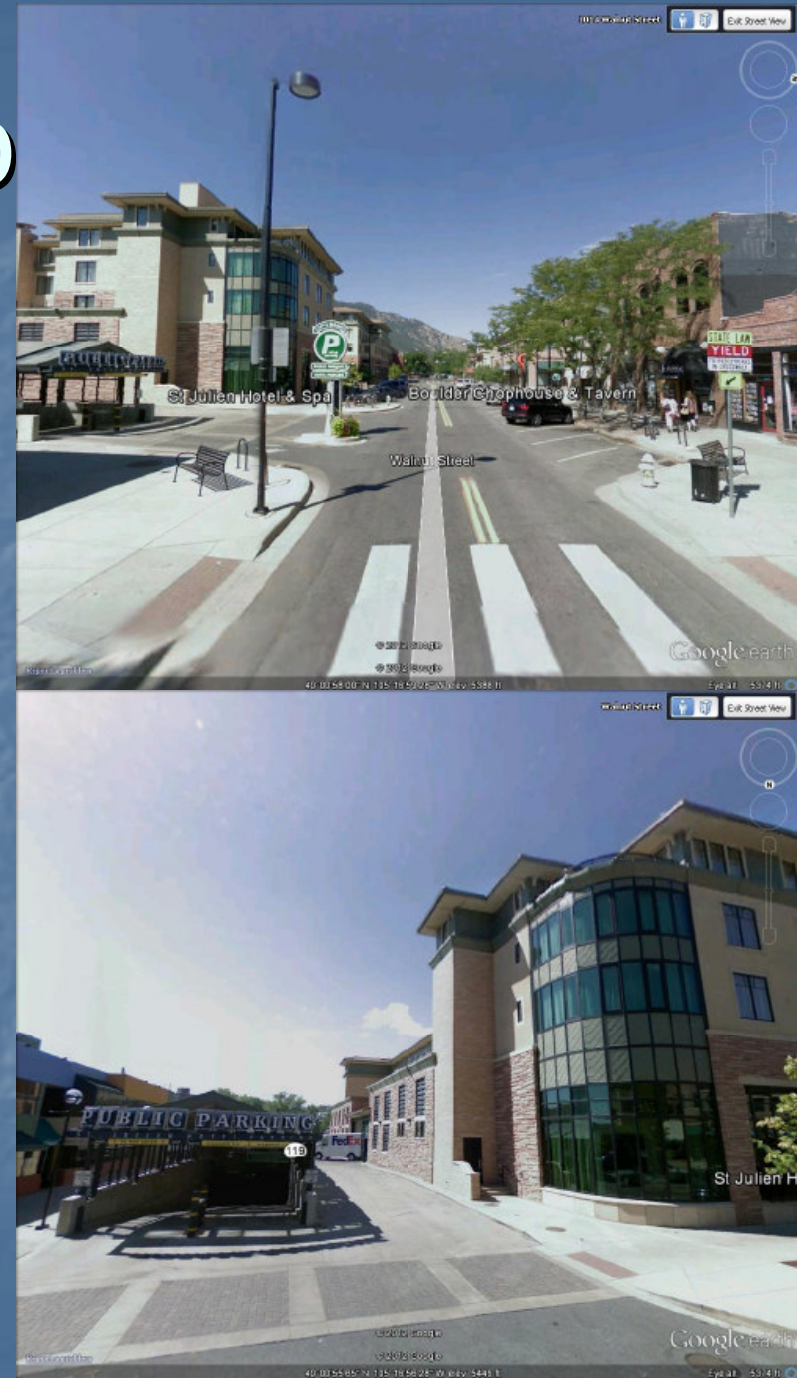


Garages: 6
Population: 114,000
Institutions: University of Colorado

Boulder, Colorado



Garages: 6
Population: 114,000
Institutions: University of Colorado



Chattanooga, Tennessee



Garages: 7

Population: 167,700

Institutions: UT-Chattanooga, 3 other schools of secondary ed

College Station, Texas



Mural by Russ Reid



Garages: One downtown

Population: 97,000

Institutions: Texas A&M University

Columbia, Missouri



Garages: 4 downtown (with surface parking, 6000 spaces-Norman > 1000)

Population: 110,400

Institutions: University of Missouri, Columbia College, Stephens College

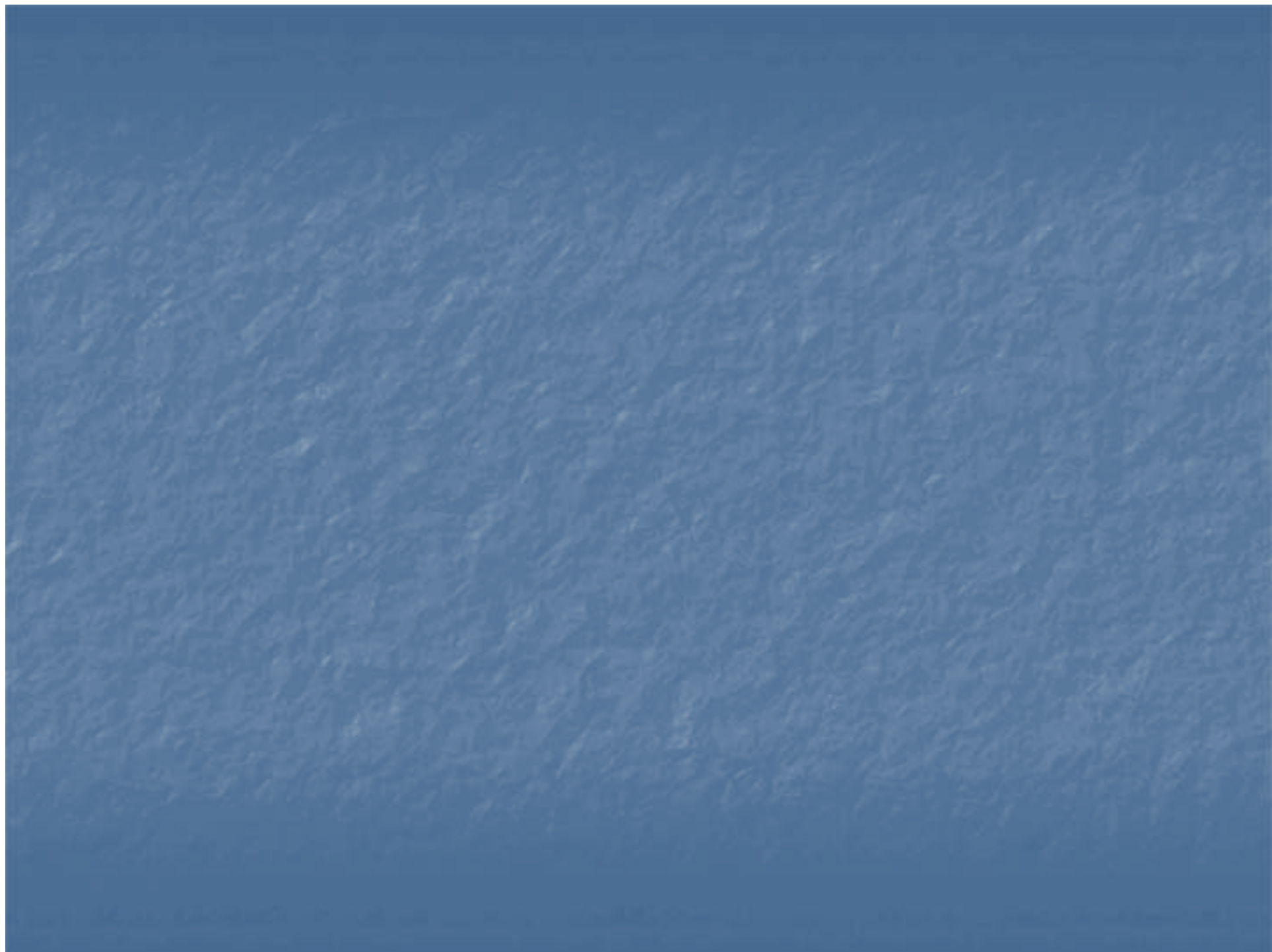
Columbia, Missouri



Garages: 4 downtown (with surface parking, 6000 spaces-Norman > 1000)

Population: 110,400

Institutions: University of Missouri, Columbia College, Stephens College



QUESTIONS

1. What are your concerns about parking if the City were to allow higher density development in Norman?
2. If parking structures are the solution to accommodate higher density development in Norman, how could they be built to minimize negative impacts on surrounding areas?
3. Would the requirement that higher density development include parking garages create any opportunities for Norman?

FUTURE MEETING DATES

August 13th meeting will be held at the Norman
High School Conference Center

August 30th meeting is currently scheduled in
City Council Chambers

Monday, August 13, 2012

“Design Criteria”

Thursday, August 30, 2012

“Wrap-Up Session”

<http://www.ci.norman.ok.us/cm/high-density-development-community-discussion>